# Site Characterization Form for February 2020 Listing Panel

**Date:** 11/20/2019
**Region:** 10
**Site Name:** **COE Civil Bradford Island Landfill**
**SSID (4-digit):** **10SE**
**Location:** Cascade Locks, Oregon 97014
**Site Type:** **Electrical Power Generation and Distribution**
**U.S. Congressional District (number): 1 Representative (name)**: Suzanne Bonamici

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**Please identify if any of the following apply? (Simply check boxes – no text needed)**

[X] Possible EJ concerns
[] Bankrupt PRP(s)
[] Former RCRA facility
[X] Site on or impacting Tribal lands
[X] Failed SAA
[] Failed OCA
[] Ground water plume with no identified source
[X] Impacting fishery
[] Anticipated Fund-lead
[] Potential state concurrence issues
[] Vapor/subsurface intrusion

## SITE BACKGROUND

**1. a. What is the site background? (Current use of the property, historical use of the property, if it is related to the cause of contamination?)**

Bradford Island is part of the Bonneville Dam complex on the Columbia River at river mile (RM) 146.1, approximately 40 miles east of Portland, Oregon. The site is owned and operated by the U.S. Army Corps of Engineers (USACE), with power distribution managed by the Bonneville Power Administration (BPA). Numerous environmental investigations have been performed by the USACE and their contractors since 1997 and through this work it became apparent that past upland and in-water disposal activities had resulted in contamination of onsite soil and ground water, as well as the sediments of the Columbia River.

In 2000 and 2001, discarded electrical equipment and debris were discovered in the Columbia River immediately north of Bradford Island. Following the equipment removal conducted in 2000 and 2002, sediments along the north shore of the island were characterized and the most highly impacted sediments known at the time were removed in October 2007.

The 2012 RI report focuses on two operable units (OUs), the Upland OU and the River OU. The Upland OU includes four areas of potential concern (AOPCs): the Landfill AOPC, Sandblast Area AOPC, Pistol Range AOPC, and Bulb Slope AOPC; while the River OU consists of sediments in portions of the Columbia River.

Assessment and cleanup activities for the site have been conducted by the USACE as the lead agency in accordance with Executive Order (EO) 12580, including initial assessments, removal of PCB containing equipment and PCB contaminated sediments from within the Columbia River, a Remedial Investigation (RI) of both OUs, and a Feasibility Study (FS) for the Upland OU. Progress at the site, since initial investigations in 1997 has been slow. To date, the only cleanup work conducted has been the removal of PCB containing equipment along the north shore of the island and a limited sediment removal associated with the equipment. While the RI has been completed, data gaps exist which need to be filled in order to determine nature and extent. Issues remain with the FS for the Upland OU, and further characterization needs to be conducted. There is not yet an FS for the River OU. EPA Region 10 has been a participant in quarterly management meetings for the site for several years – management briefings that include ODEQ, Ecology and the Yakama Nation. ODEQ, Ecology and the Yakama Nation have formally requested that the EPA place the site on the NPL due lack of progress and funding under USACE leadership (October 2019). The EPA responded to the request in November 2019 indicating that it would be initiating the NPL listing process for the site. EPA Region 10 has conducted a conference call with USACE Portland District management since receiving the written request in order to discuss the funding and management issues presented by Ecology, ODEQ and the Yakama Nation. USACE confirmed the lack of funding and resources needed to proceed with CERCLA remedial work at the site and offered no alternatives to address the funding and resources shortfall.

**b. What is the approximate size of the area of contamination?**

The Upland OU is approximately 22 acres. The River OU covers approximately 240 acres.

2. **Please provide approximate years of operation for the facility(ies) potentially responsible for the contamination?**

Dam operations began in 1938 and continue to the present day. 81 years total. USACE disposed of hazardous waste in an upland landfill and light bulbs and electrical equipment in the upland and river between 1942 and 1982. USACE also conducted sandblasting, pistol range shooting and painting on the upland area.

3. **What is the status of the facility?** [Active / Inactive]

If *ACTIVE*, provide explanation as to why site cannot be addressed under its current regulated program

The site is part of the active Bonneville Dam complex which is owned and operated by the USACE. The USACE has been the lead agency managing the site as a CERCLA facility in accordance with EO 12580. Ecology, ODEQ and the Yakama Nation have requested that EPA list the site on the NPL due inadequate site progress, citing lack of funding and resources on the part of USACE, in addition to other concerns including inadequate risk assessments, incomplete characterization, lack of adherence to state ARARs, and disagreements with respect to Upland OU cleanup recommendations.

## CONTAMINANTS

**4. What are the contaminants of concern and associated contamination levels? How do these compare to benchmarks (MCLs, ARARs, soil screening levels, etc.)?** ***Note -- Do not cite SCDM as a benchmark***

*Sediment concentrations indicated are for sampling conducted prior to the 2007 removal action conducted by the USACE. Post removal sediment characterization is inadequate to determine whether all impacted sediment areas have been characterized, or if removal actions were ultimately successful in removing all impacted sediments within the limited area of the removal action scope. Post removal fish tissues sample indicate that levels of contaminants in resident fish have not declined since the removal actions were conducted.

### *Sediment*

| Analyte | Max Concen. | NOAA TEL |
|---|---|---|
| **Metals (mg/kg)** | | |
| Copper | 13,100 | 35.7 |
| Lead | 121 | 35 |
| Mercury | 0.366 | .174 |
| **PCBs (ug/kg)** | | |
| Total PCBs | 690,000 | 7 |
| **SVOCs (ug/kg)** | | |
| Benzo(a)anthracene | 1,200 | 31.7 |
| Benzo(a)pyrene | 1,300 | 31.9 |
| Bis(2-ethylhexyl)phalate | 3,800 | 182 (Oregon TEC) |
| Pyrene | 2,000 | 53 |

### *Tissue*

| Analyte | Concen. Bass | Screening Value | Concen. Sculpin | Screening Value |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| **Metals (mg/kg)** | | | | |
| Copper | 1.42 | | | |
| Lead | 0.2 | | 0.136 | |
| Mercury | 0.512 | | 0.308 | |
| **PCBs (ug/kg)** | | | | |
| Total PCBs | 18,110 | | 1700 | |
| **SVOCs (ug/kg)** | | | | |
| Benzo(a)anthracene | 17 | | | |
| Benzo(a)pyrene | 7.4 | | | |
| Bis(2-ethylhexyl)phalate | 1600 | | | |
| Pyrene | 7.4 | | | |

***Soil***

| Analyte | Concen. | Residential EPA RBC |
|---|---|---|
| **Metals (mg/kg)** | | |
| Lead | 3,260 | 400 |
| **PCBs (ug/kg)** | | |
| Total PCBs | 2,140 | 230 |
| **SVOCs (ug/kg)** | | |
| Benzo(a)anthracene | 32,000 | 1,100 |
| Benzo(a)pyrene | 34,000 | 110 |
| Bis(2-ethylhexyl)phalate | 260,000 | 39,000 |
| **VOCs (ug/kg)** | | |
| Tetrachloroethylene | 420,000 | 24,000 |
| Trichloroethene | 6,080 | 940 |

***Groundwater***

| Analyte | Ref. | Concen. | MCLs |
|---|---|---|---|
| **Metals (mg/L)** | | | |
| Copper | RI pg 450 | 201 | 1.3 |
| Lead | RI pg 450 | 78.2 | .015 (action level) |
| Mercury | RI pg 433 | 0.33 | .002 |
| **VOCs (ug/L)** | | | |

| | | | |
|---|---|---|---|
| Tetrachloroethylene | RI pg 478 | 54.5 | 5 |

## NATURE AND EXTENT OF RISK

**5. Explain the nature and extent of risk posed by the site. Please describe in detail how the contamination poses a risk to humans or ecosystems.**

The site presents both significant eco risk (threatened and endangered species, habitat) and a human health risk (human food chain). Resident fish tissue samples show high levels PCBs and other contaminants, and a Yakama Nation usual and accustomed treaty subsistence fishery is located directly in the zone of contamination.

Sources: The Bradford Island Upland OU contains several sources including a former sand blast grit disposal area (including a transformer maintenance area and other hazardous waste storage), a former pistol range, a lightbulb disposal area and a number of other dumps. Sources contain a multitude of constituents including PCBs, lead and volatile and semi-volatile organics.

No remedial actions have been taken on the Upland OU to date. Some removal of the sand blast grit disposal area had been planned for FY 2020, but now will not be conducted due to lack of resources. The River OU still contains PCB (and other constituents) contaminated sediments. The full extent of the PCB contamination (and other contaminants) was not defined in the RI, and the most recent fish tissue sampling (younger fish) indicate that impacts to fish remain significant post 2007 removal of a portion of the PCB containing sediments.

**6. Are there any fish advisories?** Yes. If yes, please describe.

In 2013, both the Oregon Health Authority and the Washington Department of Health issued fish consumption advisories for resident fish species in the Columbia River above Bonneville Dam due to elevated levels of mercury and PCBs in fish tissue from site related biota sampling.

**7. Are there any vapor intrusion concerns at the site?** No

If yes,
a. Do you have documented evidence of vapor intrusion?
b. Or is the concern based on site characteristics (e.g., TCE ground water plume under residential properties) that increase the likelihood for vapor intrusion?

## PRP INFORMATION

**8. Do you have liable PRPs?** [Yes / No]

**9. If you have liable PRPs, please answer the following:**

**a. Name of PRPs**

U.S. Army Corps of Engineers (owner/operator)
Bonneville Power Administration (distributor)

**b. Are the PRPs viable and do they have the financial ability to pay for remedial action now – not later in cost recovery?** [Yes / No]

## NOTABLE SITE ISSUES

**10. Are any Federal Agencies involved (even minimally)?** [Yes / No]

**If *YES*, please list and explain. Also describe what type of contact/discussions EPA has had with the Federal Agencies involved?**

The Bonneville Dam complex, including Bradford Island, is owned and operated by the USACE. Assessment and cleanup activities for the site have been conducted by the USACE as the lead agency in accordance with EO 12580, including initial assessments, removal actions for PCB containing equipment and contaminated sediments, an OU. EPA Region 10 has been a participant in quarterly management meetings for the site for several years – management briefings that include ODEQ, Ecology and the Yakama Nation. ODEQ, Ecology and the Yakama Nation have formally requested that the EPA place the site on the NPL due lack of progress and funding under USACE leadership (October 2019). EPA has responded to the request (November 2019) indicating that it would be initiating the NPL listing process. EPA Region 10 has conducted a conference call with USACE Portland District management since receiving the written request in order to discuss the funding and management issues presented by Ecology, ODEQ and the Yakama Nation. USACE confirmed the lack of funding and resources needed to proceed with CERCLA remedial work at the site and offered no alternatives to address the funding and resources shortfall.

The Bonneville Power Administration exists within the U.S. Department of Energy and is responsible for distribution of power generated by the Bonneville Dam. Under a joint funding agreement with the USACE, the BPA provides approximately 50% of the funding needed for CERCLA remedial work. BPA has no direct management of CERCLA remedial work at the site. EPA has not contacted the BPA.

11. **Are there any EJ/low income populations nearby? If so, please describe.**

Yes. The site is located within a usual and accustomed treaty fishing area for the Yakama Nation, a federally recognized tribe. The Yakama Nation reservation boundary lies approximately 15 miles from the site. The Yakama Nation reservation approaches or exceeds the 75th percentile for all environmental justice indices included in EPA's EJ Screen.

12. **Are there any other NPL sites located nearby (i.e., located within 5 miles)? [Yes / No]**
**If *YES*, provide site name(s):**

13. **Please provide any other notable site issues that EPA senior management should be aware of (if any).**

Bradford Island is a high priority cleanup in Region 10. The site contains high concentrations of contaminants in fish tissue and poses an ongoing threat to human health and the environment. Under USACE management progress has been very slow, and recently, the 2020 budget for site work was eliminated. Since discovering the sources in 1997, limited removal actions in the River OU along the shore of the island have been conducted, but thorough site characterization, feasibility studies (finalized in agreement with stakeholders), and remaining remedial cleanup have yet to be completed. Due to the slow progress and lack of funding, in addition to other issues identified by stakeholders in working with the USACE, Ecology, ODEQ and the Yakama Nation have requested NPL listing of the site. Because this is a federally owned site, OMB thorough review is anticipated as well as resistance from the USACE. If the site is to be listed on the NPL in a timely fashion to ensure that the CERCLA cleanup process is completed expeditiously, proactive support from and engagement by EPA senior management to facilitate discussions with OMB and USACE and resolve issues early will be important.

## OTHER CLEANUP APPROACHES CONSIDERED/UNDERTAKEN

14. **What past, current or planned removals or other interim response measures have been/will be taken to prevent contact with contaminants? Who is the lead for the response action: EPA, the State, or PRP?**

The USACE conducted limited removal actions consisting of the removal of PCB containing equipment and sediments along the north shore of Bradford Island in 2002 and 2007. No other removals have been conducted or are planned. The USACE has been managing the site as a CERCLA remedial cleanup. Progress towards completing remedial investigations, design and cleanup for the Upland and River OUs has been impeded by a lack of adequate funding and resources needed to address this high priority site.

15. **If removal actions were performed:**

**a. What work is left to be completed at the site that removal did not address?**

No cleanup work has been conducted for the Upland OU which contains several source areas described above. In water equipment and sediment removal conducted in 2002 and 2007 did not address sediment impacts over the broader River OU which still requires additional remedial investigation to determine nature and extent. No additional in-water cleanup work has been conducted.

**b. Why didn't/couldn't removal address these other areas?**

The 2002 and 2007 removal actions were conducted prior to the RI and were targeted to one specific area within the River OU along the north shore of Bradford Island where PCB containing equipment had been dumped. Further assessment is required to supplement the RI in order to determine the nature and extent of contamination from upland sources, the previous dumping of PCB containing equipment, and other releases stemming from the long history of the Bonneville Dam complex.

16. **Was the facility permitted under any other EPA authority (RCRA, CWA, NPDES, etc.)? If yes, is there any financial assurance?**

Yes. The Bonneville Dam complex has a NPDES permit for dam related discharges. There are no EPA permits which exist for Bradford Island. There is no financial assurance.

17. **Please explain any other clean-up approaches that have been considered or taken place at the site and briefly explain why these alternative authorities cannot be used for cleanup or do not apply to your site:**

**State cleanup**: The site is located on the border of Washington and Oregon, with the source area (Bradford Island and nearshore sediments) located within Oregon. ODEQ lacks the resources necessary to conduct a state lead cleanup. The site is also federally owned with the USACE as the primary PRP.

**Removal**: Under EO 12580, with the exception of emergency actions, USACE not the EPA possesses the CERCLA authorization to conduct removal actions at the site. The financial scope and duration of cleanup for both the Upland and River OUs are also likely beyond the resource capabilities of the EPA Removal program.

**RCRA**: This site is the result of historical releases. RCRA currently plays no role at the site. USACE has been the lead agency managing the site as a CERCLA action in accordance with EO 12580.

**Brownfields**: This site is an operating dam facility owned by the USACE. Due to its CERCLA status, the site is ineligible for Brownfields consideration.

**Enforcement:** EPA has authority under CERCLA, RCRA and CWA to issue an administrative order or initiate a civil judicial action against USACE for injunctive relief, but such an effort would be extremely unusual and confrontational and would not be expected to receive the necessary approval by high level officials at EPA and the Department of Justice. EPA also has the authority under EO 12580 to perform a removal action at the Bradford Island facility and while USACE is obligated by EO 12580 to reimburse EPA for the costs incurred to perform this action, it is expected that USACE would not provide such reimbursement. A removal action would also be inadequate to address cleanup of the site.

**Superfund Alternative Approach (SAA):** CERCLA remedial cleanup of the site under the management of the USACE under EO 12580 has made inadequate progress due to a lack of funding and resources on the part of USACE, and other issues as outlined by the NPL listing request put forward by Ecology, ODEQ and the Yakama Nation including inadequate risk assessments, incomplete characterization, lack of adherence to state ARARs, and disagreements with respect to Upland OU cleanup recommendations.

Other_____

## STATUS OF STATE SUPPORT

18. **a. Do you believe that the Governor will support listing?** [Yes / No / Don't Know] Please explain if answer is "No" or "Don't Know"

b. If you expect opposition from the state, how does your Region expect to remedy that?

## STAKEHOLDER INPUT

19. **a. Does the local community support or oppose listing? Have they raised any concerns?**

The Yakama Nation has been an active participant at the site and has requested, along with Ecology and ODEQ, that the site be listed on the NPL. Also, Columbia Riverkeeper, a local community organization, and many of its constituents have promoted NPL listing.

**b. Has there been any Congressional interest in the site? If yes, pleas provide details.**

No.

20. **What other stakeholders (local government/PRPs/Tribes/State) are involved at the site? For each stakeholder, please specify whether they support NPL listing and briefly describe their issues/concerns.**

Yakama Nation: Supports NPL listing. Concerns related to inadequate site progress and impacts to usual and accustomed treaty fishing areas which may be impacting human health.

Washington State Department of Ecology: Supports NPL listing. Concerned with inadequate site progress and impacts to state owned sediments, and human health and environmental impacts stemming from site releases.

Oregon Department of Environmental Quality: Supports NPL listings. Concerned with inadequate site progress, lack of adherence to state ARARs, lack of funding for state oversight, and impacts to state owned sediments, and human health and environmental impacts stemming from site releases.

United State Army Corps of Engineers (PRP): It is unclear whether the USACE would support NPL listing. USACE acknowledges the lack of funding which is impeding site progress. NPL listing may enhance the USACE's capability to obtain the necessary resources to complete CERCLA remedial work at the site.

Bonneville Power Administration (PRP): It is unclear whether BPA would support NPL listing.

21. **Are you aware of any redevelopment interest from the property owner, community, local government or real estate investors. If so, please describe.**

No.

## PRELIMINARY COST ESTIMATE/POTENTIAL REMEDIAL ACTION

22. Anticipated response costs:

[] $5-$10 million
[X] $10-20 million
[] $20-50 million
[] $50-100 million
[] >$100 million

23. What might the potential remedial action include?

For the Upland OU, excavation and off-site disposal of source areas is anticipated. For the Water OU, some combination of hydraulic dredging and treatment/disposal of contaminated sediments, and enhanced natural recovery is anticipated. The full nature and extent of contaminated sediments has yet to be determined.

## HRS PACKAGE

24. What types of **sources** (along with descriptions) are at the site? (X all that apply.)

[X] Landfill:
[] Waste Pile:
[] Surface impoundment:
[] Tanks:
[] Drums:
[X] Contaminated soil:
[] Contaminated ground water plume:
[X] Other: Contaminated sediment plume.

25. What are the **pathway(s) scored** in the HRS package?
[] Ground water pathway
[X] Surface water pathway
[] Soil exposure and subsurface intrusion pathway
[] Air pathway

What are **other pathways of concern** (but not scored)?

[] Ground water pathway
[] Surface water pathway
[] Soil exposure and subsurface intrusion pathway
[] Air pathway

26. a. **Do you expect to receive negative comments on the proposal to list?**

Negative comments may come from the USACE.

b. If not, would this site be a candidate for a streamlined documentation record?

## MAP

27. Please attach to this worksheet a single 8.5" x 11" site map showing main site features and location of contamination. You may attach it separately in JPG or PDF format or copy and paste map directly into this form.

## DIVISION DIRECTOR SIGNATURE

28. Attach Regional Division Director signature here.

I _____ have read the Site Characterization
*(Regional DD signature)*

Worksheet for the COE Civil Bradford Island Landfill site, and I concur with bringing this
*(site name)*

site before the NPL Listing Panel with the intent of sharing with AA/OLEM for the next

round of NPL proposals.